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Remarks

Applicant notes with appreciation the indication that Claims 2-6, 11-26 and 31-42 are allowed, and that Claims 9-10 are directed toward allowable subject matter. Reconsideration of the above referenced application in view of the enclosed remarks is requested. Claims 8-10 and 27 are amended. Specifically, Claims 9-10 are amended to put them into independent form. Claim 8 is amended to overcome the Examiner's § 112 rejection. Claims 1-42 are now pending in the application.

ARGUMENT

Claims 1, 7, 8 and 27-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,807,595 to Khan et al. (hereinafter "Khan et al."). This rejection is respectfully traversed and Claims 1, 7, 8 and 27-30 are believed allowable based on the following discussion.

Regarding Claims 1 and 27, the Examiner asserts that Khan et al. teach determining whether the device is activated or inactivated. Applicant's claim requires determining whether the file system device is activated or inactivated. In contrast, Khan et al. teach only to determine whether the microprocessor is activated or inactivated. Applicant's claimed invention is meant to buffer requests to write to a file system device to reduce power consumption of unnecessarily activating the file system device. In contrast, Khan et al. teach buffering interrupt requests when a microprocessor is inactivated. Khan et al. do not teach or suggest anything related to a file system device. The device of Khan et al. is a microprocessor. Applying the teaching of Khan et al. will not result in Applicant's invention.

The Examiner asserts that one of ordinary skill in the art would have been motivated to utilize the invention of Khan et al. to apply to file systems, even though only buffering ISRs for a microprocessor is taught. There are differences between microprocessors and file system devices that would result in those of ordinary skill in the art to miss this application. Khan et al. teach buffering ISRs meant for a microprocessor. The microprocessor, by definition, has a controller, and may have many devices coupled to it. If the microprocessor is shut down, there are advantages to waiting before processing an ISR. In contrast, these advantages differ from the

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advantages Applicant's invention. Applicant's file system is typically coupled to a processor. The operation of the processor results in requests to access and write data to a file system device, based on user input, or running applications. The power on or activation status of the file system is independent of the status of the corresponding processor. Applicant's invention (Claim 1) requires that when the file system device is determined to be inactive, the write operation is buffered to physical memory. While this operation results in power savings, there is no motivation for one of ordinary skill in the art to utilize this method developed for a microprocessor for a file system device. Further, the method of Khan et al. is to buffer ISRs. Buffering ISRs is not same as buffering write operations. Khan et al. buffers ISRs when the microprocessor is inactive. Applicant's invention buffers write operations when the corresponding processor may be active. Thus, not only is there no motivation to used Khan et al.'s methods applied to file system devices, but doing so will not result in buffering of a write operation.

Similarly, Claim 27 requires determining a power state of a non-volatile storage device. In contrast, Khan et al. teach determining that a microprocessor is activated or inactivated. Khan et al. do not teach a power state of a non-volatile storage device. In known computer systems, a microprocessor is typically a separate device than the non-volatile storage device. The microprocessor may communicate with the storage device, but knowing the power state of the microprocessor does not determine the power state of the storage device. Thus, Claims 1 and 27 and their progeny are believed allowable, as amended.

As for Claims 7-8 and 29, the Examiner asserts that Khan et al. teach writing one or more buffered write operations to the device upon occurrence of a predetermined condition, and specifically cites Col. 7, lines 9-26 and Col. 8, lines 17-62 to show that the predetermined condition is "interrupt servicing upon power up." Claim 7 requires that the predetermined condition comprises one or more of the following: *detecting that a memory write buffer is full, detecting that a predetermined amount of time has lapsed, detecting that a predetermined volume of data has been buffered, detecting that battery power is at a threshold level, detecting that a computer system with which the device is associated is being turned off or put in a standby state, and detecting an explicit request that the write buffer contents be committed to non-volatile storage.* Khan et al. does not teach or suggest any of the enumerated limitations for

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predetermined condition. Determining that the microprocessor is shut down is not the same as Applicant's claimed invention. Khan et al. teach that if the ISR is high enough priority that the microprocessor be powered up and then the ISRs are to be processed. Thus, the determination made by Khan et al. is related to the priority of the ISR, not the occurrence of one of the predetermined conditions. Proactively powering up the microprocessor to allow current and buffered ISRs to be processed is not the same as waiting for the occurrence of one of the predetermined conditions and then writing buffered write operations to a device, as claimed by Applicant.

Regarding Claim 8, Applicant's claimed invention requires that a user input requests that the buffered write is to be committed to non-volatile storage. In response to the request, any buffered writes are committed to the appropriate device. Khan et al. do not teach or suggest that a user can explicitly request that buffered information be written to a device. Instead, Khan et al. teach that a keyboard entry must be read in response to an interrupt request. Applying the teachings of Khan et al. will not result in a specific request to commit write operations to non-volatile storage. Thus, Claims 7 and 8 are believed allowable. Claim 29 is dependent on amended Claim 27 which now requires *determining whether the device is operating in a limited power state prior to determining whether the device is activated or inactivated*. Thus, Claims 27-30 should be allowed along with Claim 2.

All claims remaining in the application are now allowable.

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CONCLUSION

In view of the foregoing, Claims 1 to 42 are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (703) 633-6845. Early issuance of Notice of Allowance is respectfully requested. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

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s/ Joni D. Stutman-Horn /

Joni D. Stutman-Horn
Registration No. 42,173
Patent Attorney
Intel Corporation
(703) 633-6845

c/o Blakely, Sokoloff, Taylor & Zafman, LLP
12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025-1030